CLAIMS

What is claimed is:

Claim 1. A process for determining a proteomic basis for development and progression of abnormal physiological conditions comprising:

obtaining a patient sample containing proteomic material;

preparing said patient sample to facilitate proteomic investigation thereof;

isolating one or more patient specific proteomic materials from said patient sample; and

comparing said one or more isolated patient specific proteomic materials against a library of proteomic materials having characteristics identifiable with both normal and abnormal physiological conditions or predictive hallmarks thereof;

wherein said one or more isolated patient specific proteomic materials are characterized as being positively or negatively indicative of one or more abnormal physiological conditions or predictive hallmarks thereof.

Claim 2. A process in accordance with claim 1, further including the step of:

sequencing said one or more isolated patient specific proteomic materials.

Claim 3. A process in accordance with claim 1, further including the step of:

developing at least one antibody to said isolated patient specific proteomic material.

Claim 4. A process in accordance with claim 3, further including the step of:

expressing at least one protein marker specific to said at least one antibody to said isolated patient specific proteomic material.

Claim 5. A process in accordance with claim 3, further including the step of:

performing at least one interactive mapping step to characterize said at least one antibody.

Claim 6. A process in accordance with claim 5 wherein said interactive mapping step includes one or more steps selected from the group consisting of creation of engineered antibodies, directly determining the three-dimensional structure of said antibody directly from an amino acid sequence thereof; cellular localization, sub-cellular

localization, protein-protein interaction, receptor-ligand interaction, and pathway delineation.

Claim 7. A process in accordance with claim 6 wherein said engineered antibodies are antibodies tagged with a material selected from the group consisting of GFP, colloidal gold, streptavidin, avidin and biotin.

Claim 8. A process in accordance with claim 4, further including the step of:

performing at least one interactive mapping step to characterize said at least one protein marker.

Claim 9. A process in accordance with claim 8 wherein said interactive mapping step includes one or more steps selected from the group consisting of creation of engineered proteins, directly determining the three-dimensional structure of said protein directly from an amino acid sequence thereof; cellular localization, sub-cellular localization, protein-protein interaction, receptor-ligand interaction, and pathway delineation.

Claim 10. A process in accordance with claim 9 wherein said engineered proteins are proteins tagged with a material selected from the group consisting of GFP, colloidal gold, streptavidin, avidin and biotin.